

Amendment to the Claims:

1. (Canceled)

2. (Currently amended) The docking assembly as set forth in ~~claim 1~~
claim 5, further including:

rolling elements arranged between the couch alignment surfaces and the corresponding imaging apparatus alignment surfaces of the connecting region of the imaging apparatus.

3. (Currently amended) The docking assembly as set forth in ~~claim 1~~
claim 5, wherein the docking assembly further includes:

couch camming surfaces that cooperate with camming surfaces of the connecting region of the imaging apparatus to cam the movable subject couch laterally toward alignment with the docked position as the movable subject couch approaches the imaging apparatus.

4. (Currently amended) The docking assembly as set forth in ~~claim 1~~
claim 5, wherein the latch includes:

a biasing spring; and

a hook that is biased by the biasing spring toward a closed position, the hook being cammed opened in opposition to the biasing spring by a camming surface of a latch block as the movable subject couch approaches the docked position, the biasing spring biasing the hook to close onto the latch block as the hook moves past the camming surface and ceases contact therewith.

5. (Currently amended) ~~The A~~ docking assembly as set forth in claim 1, ~~wherein the actuator includes~~ for docking a movable subject couch with an imaging apparatus, the docking assembly including:

couch alignment surfaces that mate with corresponding imaging apparatus alignment surfaces of a connecting region of the imaging apparatus to

define a docked position of the movable subject couch with respect to the imaging apparatus;

a docking sensor that detects the movable subject couch approaching the docked position;

a latch that mates with the connecting region of the imaging apparatus;
and

an actuator that cooperates with the latch to bias the movable subject couch into the docked position in response to the docking sensor detecting that the couch has approached the docking position, the actuator including an electric motor[[;]] and a mechanical energy storage element interposed between the motor and the latch, the mechanical energy storage element cooperating with the latch to bias the movable subject couch into the docked position when the motor is not delivering mechanical energy.

6. (Previously presented) The docking assembly as set forth in claim 5, wherein the mechanical energy storage element includes a spring interposed between the motor and the latch.

7. (Previously presented) The docking assembly as set forth in claim 6, wherein the actuator further includes:

a drive shaft arranged between the motor and the latch, the motor driving the drive shaft in a first direction to secure the latch onto the latch block of the connecting region of the imaging apparatus, the spring storing energy received from the motor during the driving in the first direction, the stored energy continuing to bias the latch on the latch block after the driving in the first direction ceases.

8. (Previously presented) The docking assembly as set forth in claim 7, further including:

an undock camming surface that communicates with the latch to cam the latch open when the motor drives the drive shaft in a second direction opposite the first direction.

9. (Currently amended) ~~The A~~ docking assembly as set forth in claim 1, ~~further for docking a movable subject couch with an imaging apparatus, the docking assembly including:~~

couch alignment surfaces that mate with corresponding imaging apparatus alignment surfaces of a connecting region of the imaging apparatus to define a docked position of the movable subject couch with respect to the imaging apparatus;

a docking sensor that detects the movable subject couch approaching the docked position;

a latch that mates with the connecting region of the imaging apparatus;

an actuator that cooperates with the latch to bias the movable subject couch into the docked position in response to the docking sensor detecting that the couch has approached the docking position; and

an electronic controller communicating with the actuator and the docking sensor, the electronic controller operating the actuator to cooperate with the latch to bias the movable subject couch into the docked position in response to the docking sensor detecting the movable subject couch approaching the docked position.

10. (Previously presented) The docking assembly as set forth in claim 9, wherein the electronic controller monitors a state of the docking assembly, the docking assembly being in one of a plurality of states including:

a ready to dock state in which the latch is biased into a closed position and the electronic controller is waiting for the docking sensor to detect the movable subject couch approaching the docked position;

a docked state in which the latch is biased into the closed position and secured to the connecting region by the actuator; and

an undocking state in which the latch is biased into an open position by the actuator.

11. (Previously presented) The docking assembly as set forth in claim 10, further including:

a tabletop lock sensor that indicates a locked condition of a subject transfer pallet of the movable subject couch, the electronic controller monitoring the tabletop lock sensor and prohibiting a docking assembly state transfer from the docked state to the undocking state when the tabletop lock sensor indicates an unlocked condition.

12. (Previously presented) The docking assembly as set forth in claim 10, further including:

an actuator sensor that indicates a position of the actuator, the electronic controller identifying the docking assembly state based on at least the docking sensor and the actuator sensor.

13. (Currently amended) A magnetic resonance imaging apparatus including:

a housing that houses at least a main magnet and magnetic field gradient coils and defines a bore; and

a movable subject couch; and

~~the connecting region of the docking assembly as set forth in claim 1~~
claim 5 secured to the housing for docking the movable subject couch with the housing.

14. (Previously presented) The magnetic resonance imaging apparatus as set forth in claim 13, wherein the connecting region further includes:

a tongue extending from the housing, the tongue defining the imaging apparatus alignment surfaces; and

a latch block disposed on the tongue, the latch selectively latching onto the latch block.

~~14~~ 15. (Currently amended) A couch including:

a wheeled subject support; and

a docking assembly set forth in ~~claim 1~~ claim 9 for docking the wheeled subject support with a diagnostic imaging apparatus.

~~15~~ 16. (Currently amended) The couch as set forth in ~~claim 14~~ claim 15, wherein the actuator includes:

a motor disposed on the movable subject support that selectively drives the latch to mate with the connecting region of the imaging apparatus.

~~16~~ 17. (Currently amended) The couch as set forth in ~~claim 15~~ claim 16, wherein the actuator further includes:

a spring disposed between the motor and the latch, the spring being mechanically loaded when the motor drives the latch to mate with the connecting region, the loaded spring biasing the latch into the mated position when the motor ceases the driving.

~~17~~ 18. (Currently amended) A method for docking a movable subject support couch with an imaging apparatus, the method including:

moving the movable subject support couch toward the imaging apparatus;

responsive to the moving, mating a latch connected with the movable subject support couch with a connecting region of the imaging apparatus;

detecting the movable couch approaching a docked position with respect to the imaging apparatus; and

responsive to the detecting, electromechanically biasing the movable subject support couch into the docked position using the mated latch as a first force anchor.

~~18~~ 19. (Currently amended) The method as set forth in ~~claim 17~~ claim 18, further including:

locking a couch brake after the movable couch is biased into the docked position; and

responsive to an unlocking of the couch brake, removing the biasing of the movable couch into the docked position and unmating the latch from the connecting region of the imaging apparatus.

~~19~~ 20. (Currently amended) The method as set forth in ~~claim 17~~ claim 18, wherein the biasing of the movable subject support couch into the docked position includes:

relatively drawing a second force anchor disposed on the movable couch toward the first force anchor defined by the mated latch.

21. (New) The docking assembly as set forth in claim 9, further including:

rolling elements arranged between the couch alignment surfaces and the corresponding imaging apparatus alignment surfaces of the connecting region of the imaging apparatus.

22. (New) The docking assembly as set forth in claim 9, wherein the docking assembly further includes:

couch camming surfaces that cooperate with camming surfaces of the connecting region of the imaging apparatus to cam the movable subject couch laterally toward alignment with the docked position as the movable subject couch approaches the imaging apparatus.

23. (New) The docking assembly as set forth in claim 9, wherein the latch includes:

a biasing spring; and

a hook that is biased by the biasing spring toward a closed position, the hook being cammed opened in opposition to the biasing spring by a camming surface of a latch block as the movable subject couch approaches the docked position, the biasing spring biasing the hook to close onto the latch block as the hook moves past the camming surface and ceases contact therewith.

24. (New) A magnetic resonance imaging apparatus including:

a housing that houses at least a main magnet and magnetic field gradient coils and defines a bore;

a movable subject couch; and

the docking assembly as set forth in claim 9 for docking the movable subject couch with the housing.